

A List of References on Spacetime Splitting and Gravitoelectromagnetism

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A

Abramowicz, M.A., see also Kristiansson, Sonogo.

Abramowicz, M.A., 1990,
Centrifugal Force: A Few Surprises, *Mon. Not. R. Ast. Soc.* **245**, 733.

Abramowicz, M.A., 1992,
Relativity of Inwards and Outwards, *Mon. Not. R. Ast. Soc.* **256**, 710.

Abramowicz, M.A., 1993,
Black Holes and the Centrifugal Force Paradox, *Sci. Am.* **268**, 26.

Abramowicz, M.A. and Bičák, J., 1991,
The Interplay between Relativistic Gravitational, Centrifugal and Electric Forces: a Simple Example, *Gen. Relativ. Grav.* **23**, 941.

Abramowicz, M.A., Carter, B. and Lasota, J.P., 1988,
Optical Reference Geometry for Stationary and Static Dynamics, *Gen. Relativ. Grav.* **20**, 1173.

Abramowicz, M.A. and Lasota, J.P., 1974,
A Note on a Paradoxical Property of the Schwarzschild Solution, *Acta Phys. Polonica.* **B5**, 327.

Abramowicz, M.A. and Lasota, J.P., 1986,
On Traveling Round Without Feeling It and Uncurving Curves, *Amer. J. Phys.* **54**, 936.

Abramowicz, M.A. and Lasota, J.P., 1997,
A Brief Story of a Straight Circle, *Class. Quantum Grav.* **14**, A23.

Abramowicz, M.A., Miller, J.C., and Stuchlík, Z., 1993,
Concept of Radius of Gyration in General Relativity, *Phys. Rev.* **D47**, 1440.

Abramowicz, M.A., Nurowski, P., Wex, N., 1993,
Covariant Definition of Inertial Forces, *Class. Quantum Grav.* **10**, L183.

Abramowicz, M.A., Nurowski, P., Wex, N., 1995,
Optical reference geometry for stationary and axially symmetric spacetimes, *Class. Quantum Grav.* **12**, 1467.

- Abramowicz, M.A. and Prasanna, A.R., 1990,
Centrifugal-force Reversal Near a Schwarzschild Black Hole, *Mon. Not. R. Ast. Soc.* **245**, 720.
- Abramowicz, M.A., 1990,
Unexpected Properties of the Centrifugal Force, in 1989 Summer School in High Energy Physics and Cosmology, Pati, J.C., Randjbar-Daemi, S., Sezgin, E., Shafi, Q. (editors), World Scientific, Singapore, 586.
- Abramowicz, M.A., 1992,
Relativity of Inwards and Outwards, *Mon. Not. R. Ast. Soc.* **256**, 710.
- Abramowicz, M.A., 1993,
Inertial Forces in General Relativity, in *The Renaissance of General Relativity*, Ellis, G.F.R., Lanza, A., and Miller, J.C. (editors), Cambridge University Press, Cambridge.
- Aguirregabiria, J.M., Chamorro, A., Nayak, K.R., Suinaga, J. and Vishveshwara, C.V., 1996,
Equilibrium of a Charged Test Particle in the Kerr-Newman Spacetime: Force Analysis, *Class. Quantum Grav.* **13**, 2179.
- Allen, B., 1990,
Reversing Centrifugal Forces, *Nature* **347**, 615.
- Anderson, R., Bilger, H.R. and Stedman, G.E., 1994,
“Sagnac Effect: A Century of Earth-Rotated Interferometers, *R. Am. J. Phys.* **62**, 975.
- Arms, J.A., 1979,
Linearization stability of gravitational and gauge fields, *J. Math. Phys.* **20**, 443.
- Arms, J.A., Marsden, J.E., and Moncrief, V., 1982,
The Structure of the Space of Solutions of Einstein’s Equations II: Several Killing Fields and the Einstein-Yang-Mills Equations, *Ann. Phys. (N.Y.)* **144**, 81.
- Arnowit, R., Deser, S. and Misner, C.W., 1962,
The Dynamics of General Relativity, in *Gravitation: An Introduction to Current Research*, Ed. L. Witten, (Wiley, New York).
- Ashby, N., and Shahid-Saless, B., 1990,
Geodetic Precession or Dragging of Inertial Frames?, *Phys. Rev.* **D42**, 1118.
- Ashtekar, A., and Magnon, A., 1975,
The Sagnac Effect in General Relativity, *J. Math. Phys.* **16**, 341.

B

- Bao, D., Marsden, J. and Walton, R., 1985,
The Hamiltonian Structure of General Relativistic Perfect Fluids, *Commun. Math. Phys.* **99**, 319.
- Bardeen, J.M., 1970,
Variational Principle for Rotating Stars in General Relativity, *Astrophys. J.* **162**, 71.
- Bardeen, J.M., 1980,
Gauge-invariant Cosmological Perturbations, *Phys. Rev.* **D22**, 1882.
- Bardeen, J.M., Press, W.H. and Teukolsky, S.A., 1972, *Astrophys. J.* **170**, 347.
- Barnes, A., and Rowlingson, R.R., 1989,
Irrotational Perfect Fluids With a Purely Electric Weyl Tensor, *Class. Quantum Grav.* **6**, 949.

- Barrabès, C., Boisseau, B., and Israel, W., 1995,
Orbits, Forces, and Accretion Dynamics Near Spinning Black Holes, *Mon. Not. R. Ast. Soc.* **276**, 432.
- Bazański, S.L., 1997,
Is the Geodesic Hypothesis in General Relativity Falsifiable?, in *Mathematics of Gravitation Part II, Gravitational Wave Detection, Banach Center Publications, Volume 41*, (Polish Academy of Sciences, Warsaw).
- Belasco, E.P. and Ohanian, H.C., 1969,
Initial Conditions in General Relativity: Lapse and Shift Formulation, *J. Math. Phys.* **10**, 1503.
- Benvenuti, P., 1960,
Formulazione relativa delle equazioni dell'elettromagnetismo in relatività generale, *Ann. Scuola Normale Sup. Pisa, Ser.III* **14**, 171.
- Bertschinger, E., and Hamilton, A.J.S., 1994,
Lagrangian Evolution of the Weyl Tensor, *Astrophys. J.* **435**, 1.
- Bini, D., Carini, P., and Jantzen, R.T., 1992,
Applications of Gravitoelectromagnetism to Rotating Spacetimes, in *Proceedings of the Third Italian-Korean Astrophysics Meeting*, Eds. S. Kim, H. Lee, K.T. Kim, *J. Korean. Phys. Soc.* **25**, S190.
- Bini, D., Carini, P., and Jantzen, R.T., 1995,
Relative Observer Kinematics in General Relativity, *Class. Quantum Grav.* **12**, 2549.
- Bini, D., Carini, P., and Jantzen, R.T., 1996,
Gravitoelectromagnetism: Further Applications, in *Proceedings of the Seventh Marcel Grossmann Meeting on General Relativity (1994)*, Eds. R.T. Jantzen and G.M. Keiser, (World Scientific, Singapore), 519.
- Bini, D., Carini, P., and Jantzen, R.T., 1997,
The Intrinsic Derivative and Centrifugal Forces. I: Theoretical Foundations, *Int. J. Mod. Phys. D6*, 1.
- Bini, D., Carini, P., and Jantzen, R.T., 1997,
The Intrinsic Derivative and Centrifugal Forces. II: Applications to Some Familiar Stationary Axisymmetric Spacetimes, *Int. J. Mod. Phys. D6*, 143.
- Bini, D., Carini, P., Jantzen, R.T., and D. Wilkins, 1994,
Thomas Precession in Post-Newtonian Gravitoelectromagnetism, *Phys. Rev. D* **49**, 2820.
- Bini, D., Jantzen, R.T., Merloni, A., 1998,
Adapted Frames for Spacetime Splitting with an Additional Observer Family, *Il Nuovo Cimento B* **113**, 611.
- Bini, D., Jantzen, R.T., Merloni, A., 1999,
Geometric Interpretation of the Frenet-Serret Frame Description of Circular Orbits in Stationary Axisymmetric Spacetimes, *Class. Quantum Grav.* **16**, 1333.
- Bini, D., de Felice, F., Jantzen, R.T., 1999,
Absolute and Relative Frenet-Serret Frames and Fermi-Walker Transport, *Class. Quantum Grav.* **16**, 2105.
- Bini, D., Gemelli, G., Ruffini, R., 2000
Spinning Test Particles in General Relativity: Nongeodesic Motion in the Reissner-Nordström Spacetime, *Phys. Rev. D* **61**, 064013-1.

- Bini, D., Jantzen, R.T., 2000,
Circular Orbits in Kerr Spacetime: Equatorial Plane Embedding Diagrams, *Class. Quantum Grav.* **17**, 1.
- Blanchet, L. and Damour, T., 1989
Post-Newtonian Generation of Gravitational Waves, *Ann. Inst. Henri Poincaré* **50**, 377.
- Blanchet, L., Damour, T. and Schäfer, G., 1990,
Post-Newtonian Hydrodynamics and Post-Newtonian Gravitational Wave Generation for Numerical Relativity, *Mon. Not. R. Ast. Soc.* **242**, 289.
- Boersma, S., and Dray, T., 1995,
Parametric Manifolds I: Extrinsic Approach, *J. Math. Phys.* **36**, 1378.
- Boersma, S., and Dray, T., 1995,
Parametric Manifolds II: Intrinsic Approach, *J. Math. Phys.* **36**, 1394.
- Boersma, S., and Dray, T., 1994,
Slicing, Threading and Parametric Manifolds, *Gen. Relativ. Grav.* **27**, 319.
- Bonnor, W.B., 1992, *Gen. Relativ. Grav.* **24**, 551.
- Bonnor, W.B. and Steadman, B.R., 1999,
The Gravitomagnetic Clock Effect, *Class. Quantum Grav.* **16**, 1853.
- Bradley, M. Fodor, G., Gergely, L.A., Marklund, M. and Perjés, Z., 1999, *Class. Quantum Grav.* **16**, 1667.
- Boyer, R.H., and Lindquist, R.W., 1967,
Maximal Analytic Extension of the Kerr Metric, *J. Math. Phys.* **8**, 265.
- Braginsky, V.B., Caves, C.M., and Thorne, K.S., 1977,
Laboratory Experiments to Test Relativistic Gravity, *Phys. Rev.* **15**, 2047.
- Braginsky, V.B., Polnarev, A.G., and Thorne, K.S., 1984,
Foucault Pendulum at the South Pole: Proposal For an Experiment to Detect the Earth's General Relativistic Gravitomagnetic Field, *Phys. Rev. Lett.* **53**, 863.
- Bruni, M., Dunsby, P.K.S., and Ellis, G.F.R., 1992,
Cosmological Perturbations and the Meaning of Gauge-invariant Variables, *Astrophys. J.* **395**, 34.
- Bruni, M., Matarrese, S., and Pantano, O., 1994,
Dynamics of silent universes with and without lambda, SISSA-171-94-A *Talk given at 11th Italian Congress of General Relativity and Gravitation, Trieste, Italy, 26-30 Sep 1994.*
- Bruni, M., Matarrese, S., and Pantano, O., 1995,
A Local View of the Observable Universe, *Phys. Rev. Lett.* **74**, 1916.
- Bunchaft, F., and Carneiro, S., 1998,
The static spacetime relative acceleration for the general free fall and its possible experimental test, *Class. Quantum Grav.* **15**, 1557.
- Burinskii, Kerr, R.P., and Perjés, Z., 1995,
Nonstationary Kerr Congruences, *electronic preprint: gr-qc/ 9501012.*

C

- Calvão, M.O., Soares, I.D. and Tiomno, J., 1990,
Geodesics in Gödel-type Spacetimes, *Gen. Relativ. Grav.* **22**, 683.

- Carini, P., Bini, D., and Jantzen, R.T., 1992,
Gravitoelectromagnetism: Relativity of Splitting Formalisms, in *Proceedings of the Third Italian-Korean Astrophysics Meeting*, Eds. S. Kim, H. Lee, K.T. Kim, *J. Korean. Phys. Soc.* **25**, S233.
- Carini, P., Bini, D., and Jantzen, R.T., 1996,
Gravitoelectromagnetism and Inertial Forces in General Relativity, in *Proceedings of the Seventh Marcel Grossmann Meeting on General Relativity (1994)*, Eds. R.T. Jantzen and G.M. Keiser, (World Scientific, Singapore), 522.
- Carini, P. and Jantzen, R.T., 1993,
Gravitoelectromagnetism and the Single Gyro, in *Proceedings of the First William Fairbank Meeting on Relativistic Experiments in Space (September 1990)*, Eds. R. Ruffini and M. Demianski, (World Scientific Press, Singapore), 135.
- Carter, B., 1968,
Global Structure of the Kerr Family of Gravitational fields, *Phys. Rev.* **174**, 1559.
- Carter, B., 1968,
Hamilton-Jacobi and Schrodinger Separable Solutions of Einstein's Equations, *Commun. Math. Phys.* **10**, 280.
- Carter, B., 1969,
Killing Horizons and Orthogonally Transitive Groups in Space-Time, *J. Math. Phys.* **10**, 70.
- Carter, B., 1973,
Black Hole Equilibrium States, in *Black Holes*, Eds. C. DeWitt and B.S. DeWitt, (Gordon and Breach, New York), 57.
- Carter, B., McLenaghan, R.G., 1982,
Generalized Master Equations for Wave Equation Separation in a Kerr or Kerr-Newmann Black Hole Background, in *Proceedings of the Second Marcel Grossmann Meeting on General Relativity*, Ed. R. Ruffini, (North Holland, Amsterdam), p. 575.
- Cattaneo, C., 1958,
General Relativity: Relative Standard Mass, Momentum, Energy and Gravitational Field in a General System of Reference, *Nuovo Cim.* **10**, 318.
- Cattaneo, C., 1959,
On the Energy Equation for a Gravitating Test Particle, *Nuovo Cim.* **11**, 733.
- Cattaneo, C., 1959,
Proiezioni naturali e derivazione trasversa in una varietà riemanniana a metrica iperbolica normale, *Ann. Mat. Pura ed Appl.* **48**, 361.
- Cattaneo, C., 1959,
Dérivation transverse et grandeurs relatives en relativité générale, *Compt. Rend. Acad. Sci.* **248**, 197.
- Cattaneo, C., 1961, *Calcolo Differenziale Assoluto su una Varietà Riemanniana*, (Libreria E.V. Veschi, Rome).
- Cattaneo-Gasperini, I., 1961,
Proiezioni naturali dei tensori di curvatura d'una varietà V_{n+1} a métrique hyperbolique normale, *Compt. Rend. Acad. Sci.* **252**, 3722.
- Cattaneo-Gasperini, I., 1963,
Proiezioni dei tensori di curvatura di una varietà riemanniana a metrica iperbolica normale, *Rend. di Mat.* **22**, 127.

Chakrabarti, S.K., see also Prasanna.

Chakrabarti, S.K. and Prasanna, A.R., 1990,
Classical Forces in the Kerr Geometry, *J. Astrophys. Astro.* **11**, 29.

Chakrabarti, S.K. and Sheikh, A.Y., 1993,
Force on a Charged Particle Orbiting Around a Kerr-Newman Black Hole, in *Proceedings of the Sixth Marcel Grossmann Meeting on General Relativity*, Eds. H. Sato and T. Nakamura, (World Scientific Press, Singapore), p. 1360.

Chakrabarti, S.K., 1993,
Reversal of Force and Energy Coupling Around a Rotating Black Hole, *Mon. Not. R. Ast. Soc.* **261**, 625.

Choquet-Bruhat, Y., 1956,
Sur L'Integration des Équations de la Relativité Générale, *J. Rat. Mech. Anal.* **5**, 951.

Choquet-Bruhat, Y. and York, J.W., Jr., 1980,
The Cauchy Problem, in *General Relativity and Gravitation*, Vol. I, Ed. A. Held, (Plenum, New York).

Christodoulou, D., and Ruffini, R., 1973,
On the Electrodynamics of Collapsed Objects, in *Black Holes*, Eds. C. DeWitt and B.S. DeWitt, (Gordon and Breach, New York), R151.

Ciufolini, I., 1986,
Generalized Geodesic Deviation Equation, *Phys. Rev.* **D34**, 1014.

Ciufolini, I., 1990,
General Relativistic Measurements with Satellite Laser Ranging, Lunar Laser Ranging and Very Long Baseline Interferometry, *Nuovo Cim.* **13C**, 67.

Ciufolini, I., 1994,
On Gravitomagnetism and Dragging of Inertial Frames, *Class. Quantum Grav.* **11**, A73.

Ciufolini, I. and Demiański, M., 1986,
How to Measure the Curvature of Space-time, *Phys. Rev.* **D34**, 1018. Erratum: *Phys. Rev.* **D35**, 773.

Ciufolini, I., Chieppa, F., Lucchesi, D. and Vespe, F., 1997,
Test of Lense-Thirring Orbital Shift Due to Spin, *Class. Quantum Grav.* **14**, 2701.

Ciufolini, I. and Wheeler, J.A., 1995, *Gravitation and Inertia*, (Princeton University Press, Princeton).

Cohen, J.M. and Toton, E.T., 1971,
Pulsar Electrodynamics, *Astrophys. Lett.* **7**, 213.

Cohen, J.M. and Mashhoon, B., 1993,
Standard Clocks, Interferometry, and Gravitomagnetism, *Phys. Lett.* **A181**, 353.

Cohen, J.M., Tiomno, J., and Wald, R., 1973,
Gyromagnetic Ratio of a Massive Body, *Phys. Rev.* **7**, 998.

Cohen, J. M. and Mashhoon B., 1993
Standard Clocks, Interferometry, and Gravitomagnetism, *Phys. Lett.* **A181**, 353.

Collins, C.B., and Szafron, D.A., 1979,
A New Approach to Inhomogeneous Cosmologies: Intrinsic Symmetries. I., *J. Math. Phys.* **20**, 2347.

Collins, C.B., and Szafron, D.A., 1979,
A New Approach to Inhomogeneous Cosmologies: Intrinsic Symmetries. III. Conformally Flat Slices and Their Analysis, *J. Math. Phys.* **20**, 2347.

Corum, J.F., 1977,
Relativistic Rotation and the Anholonomic Object, *J. Math. Phys.* **18**, 770.

Corum, J.F., 1980,
Relativistic covariance and rotational electrodynamics, *J. Math. Phys.* **18**, 2360.

D

Damour, T., 1982,
Surface Effects in Black Hole Physics, in *Proceedings of the Second Marcel Grossmann Meeting on General Relativity*, Ed. R. Ruffini, (North Holland, Amsterdam), 587.

Damour, T., 1978,
Black Hole Eddy Currents, *Phys. Rev.* **D18**, 3598.

Damour, T., Hanni, R.H., Ruffini, R., and Wilson, J.R., 1978,
Regions of Magnetic Support of a Plasma around a Black Hole, *Phys. Rev.* **17**, 1518.

Damour, T. and Ruffini, R., 1975,
Quantum Electrodynamical Effects in Kerr-Newmann Geometries, *Phys. Rev. Lett.* **35**, 463.

Damour, T., 1987,
??, in *300 Years of Gravitation*, Eds. S.W. Hawking and W. Israel, (Cambridge University Press, Cambridge), 128.

Damour, T. Soffel, M. and Xu, C., 1991,
General Relativistic Celestial Mechanics I. Method and Definition of Reference Systems, *Phys. Rev.* **D43**, 3273.

Damour, T. Soffel, M. and Xu, C., 1992,
General Relativistic Celestial Mechanics II. Translational Equations of Motion, *Phys. Rev.* **D45**, 1017.

Damour, T. Soffel, M. and Xu, C., 1993,
General Relativistic Celestial Mechanics III. Rotational Equations of Motion, *Phys. Rev.* **D47**, 3124.

Damour, T. Soffel, M. and Xu, C., 1993,
New Approach to the General Relativistic N -Body Problem, in *Proceedings of the First William Fairbank Meeting (1990)*, (World Scientific Press, Singapore).

Damour, T. Soffel, M. and Xu, C., 1993,
Relativistic Celestial Mechanics, in *Proceedings of the Sixth Marcel Grossmann Meeting on General Relativity*, Eds. H. Sato and T. Nakamura, (World Scientific Press, Singapore), 1282.

de Felice, F., 1971,
On the Gravitational Field Acting as an Optical Medium, *Gen. Relativ. Grav.* **2**, 347.

- de Felice, F., 1975,
Analogia fra campi gravitazionali e campi elettromagnetici, *Rend. Sc. Fis. Mat. e Nat. Accad. Naz. dei Lincei* **58** (serie 8), 231.
- de Felice, F., 1979,
On the Nonexistence of Nonequatorial Circular Geodesics with Constant Latitude in the Kerr Metric, *Phys. Lett.* **96A**, 307.
- de Felice, F., 1990,
On the Circular Motion in General Relativity: Energy Threshold and Gravitational Strength, *Rendiconti Matematica Roma Serie VII* **10**, 59.
- de Felice, F., 1991,
Rotating Frames and Measurements of Forces in General Relativity, *Mon. Not. R. Ast. Soc.* **252**, 197.
- de Felice, F., 1994,
Kerr Metric: The Permitted Angular Velocity Pattern and the Pre-Horizon Regime, *Class. Quantum Grav.* **11**, 1283.
- de Felice, F., 1995,
Circular Orbits: A New Relativistic Effect in the Weak Gravitational field of a Rotating Source, *Class. Quantum Grav.* **12**, 1119.
- de Felice, F. and Bradley, M., 1988,
Rotational anisotropy and repulsive effects in the Kerr metric, *Class. Quantum Grav.* **5**, 1577.
- de Felice, F. and Calvani, M., 1979,
Causality violation in the Kerr metric, *Gen. Relativ. Grav.* **10**, 335.
- de Felice, F., and Semarák, O., 1997,
Quasi-local Measurements and Orientation in Black-hole Fields, *Class. Quantum Grav.* **14**, 2381.
- de Felice, F., and Usseglio-Tomasset, S., 1991,
On the Pre-Horizon Regime in the Kerr Metric, *Class. Quantum Grav.* **8**, 1871.
- de Felice, F., and Usseglio-Tomasset, S., 1993,
Schwarzschild Spacetime: Measurements in Orbiting Space-Station, *Class. Quantum Grav.* **10**, 353.
- de Felice, F. and Usseglio-Tomasset, S., 1996,
Strains and Rigidity in Black Hole Fields, *Gen. Relativ. Grav.* **28**, 179.
- Demiansky, M., 1985, *Relativistic Astrophysics*, (Permagon Press, New York).
- de Sitter, W., 1916, *Mon. Not. R. Ast. Soc.* **76**, 155, 481.
- Deutsch, A.J., 1955,
The Electromagnetic Field of an Idealized Star in Rigid Rotation in Vacuo, *Ann. Astrophys.* **18**, 1.
- Dirac, P.A.M., 1958,
Generalized Hamiltonian Dynamics, *Proc. Roy. Soc. London* **A246**, 326.
- Durrer, R. and Straumann, S., 1988,
Some Applications of the $3 + 1$ Formalism of General Relativity, *Helv. Phys. Acta.* **61**, 1027.
- Durrer, R., 1989,
Gauge-Invariant Cosmological Perturbation Theory for Collisionless Matter: Numerical Results, *Astrophys. J.* **208**, 1.

E

- Ehlers, J., 1961,
Beiträge zur relativistischen Mechanik kontinuierlicher Medien (Contributions to relativistic continuum mechanics), *Akad. Wiss. Mainz Abh., Math.-Nat. Kl.* **11**, 793. [English translation by G.F.R. Ellis: 1993, *Gen. Relativ. Grav.* **25**, 1225.]
- Ehlers, J., 1997,
Examples of Newtonian Limits of Relativistic Spacetimes, *Class. Quantum Grav.* **14**, A119.
- Ellis, G.F.R., see also Bruni, Rothman.
- Ellis, G.F.R., 1971,
Relativistic Cosmology, in *General Relativity and Cosmology: Proceedings of Course 47 of the International School of Physics “Enrico Fermi”*, Ed. R. Sachs, (Academic Press, New York).
- Ellis, G.F.R., 1973,
Relativistic Cosmology, in *Cargèse Lectures in Physics*, Vol. 6, Ed. E. Schatzman, (Gordon and Breach, New York).
- Ellis, G.F.R. and Bruni, M., 1989,
A Covariant and Gauge-invariant Approach to Cosmological Density Fluctuations, *Phys. Rev.* **D40**, 1804.
- Ellis, G.F.R., Bruni, M., and Hwang, J., 1990,
Density-Gradient-Vorticity Relation in Perfect Fluid Robertson-Walker Perturbations,, *Phys. Rev.* **D42**, 1035.
- Ellis, G.F.R., and Dunsby, P.K.S., 1994,
Newtonian Evolution of the Weyl Tensor, *electronic preprint: astro-ph/ 9410001*.
- Ellis, G.F.R., Hwang, J. and Bruni, M., 1989,
Covariant and Gauge-Independent Perfect-Fluid Robertson-Walker Spacetimes, *Phys. Rev.* **D40**, 1819.
- Ellis, G.F.R., and MacCallum, M.A.H., 1969,
A Class of Homogeneous Cosmological Models, *Commun. Math. Phys.* **12**, 108.
- Ellis, G.F.R., and van Elst, H., 1998,
Cosmological Models (Cargèse lectures 1998), in *Theoretical and Observational Cosmology*, Ed. Marc Lachièze-Rey,, (Kluwer, Dordrecht), 1.
- Estabrook, F.B., and Wahlquist, H.D., 1964,
Dyadic Analysis of Space-time Congruences, *J. Math. Phys.* **5**, 1629.
- Everitt, C.W.F., 1979,
The Gyroscope Experiment – I: General Description and Analysis of Gyroscope Performance, in *Experimental Gravitation*, Ed. B. Bertotti, (Academic Press, New York).
- Everitt, C.W.F., 1979, in *Experimental Gravitation: Proceedings of Course 56 of the International School of Physics “Enrico Fermi”*, Ed. B. Bertotti, (Academic Press, New York).

F

- Ferraris, M., Francaviglia, M., and Sinicco, I., 1993,
Covariant ADM Formulation Applied to General Relativity, *Il Nuovo Cimento B* **107**, 1303.

- Fermi, E., 1922,
Sopra i fenomeni che avvengono in vicinanza di una linea oraria, *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. e Nat.* **31**, 184, 306.
- Ferrarese, G., 1963,
Contributi alla tecnica delle proiezioni in una varietà riemanniana a metrica iperbolica normale, *Rend. di Mat.* **22**, 147.
- Ferrarese, G., 1965,
Proprietà di secondo ordine di un generico riferimento fisico in Relatività generale, *Rend. di Mat.* **24**, 57.
- Ferrarese, G., 1987,
Intrinsic Formulations in Relativistic Continuum Mechanics, in *Selected Problems in Modern Continuum Theory*, Eds. W. Kosinsky, T. Manacorda, A. Morro and T. Ruggeri, (Pitagora Editrice, Bologna).
- Ferrarese, G., 1988,
Intrinsic Formulation for the Cauchy Problem in General Relativity, *C. R. Acad. Sci. Paris (Ser I)*, **307**, 107.
- Ferrarese, G., 1989,
Intrinsic Formulation of the Cauchy Problem in General Relativity, in *Proceedings of the Fifth Marcel Grossmann Meeting on General Relativity*, Eds. D.G. Blair and M.J. Buckingham, (World Scientific, Singapore).
- Fischer, A.E. and Marsden, J.E., 1978,
Topics in the Dynamics of General Relativity, in *Isolated Gravitating Systems in General Relativity*, Ed. J. Ehlers, (Italian Physical Society, Bologna).
- Fischer, A.E., and Marsden, J.E., 1979,
The Initial Value Problem and the Dynamical Formulation of General Relativity, in *General Relativity: An Einstein Centenary Survey*, Eds. S.W. Hawking and W. Israel, (Cambridge University Press, Cambridge).
- Fodor, G., and Perjés, Z., 1994,
Canonical Gravity in the Parametric Manifold Picture, *Gen. Relativ. Grav.* **26**, 759.
- Fokker, A.D., 19??, *Proc. Roy. Acad. Amsterdam* **23**, 379.
- Forward, R.L., 1961,
General Relativity for the Experimentalist, *Proceedings of the IRE* **49**, 892.

G

- Gerosh, R., 1971,
A Method for Generating Solutions of Einstein's Equations, *J. Math. Phys.* **12**, 918.
- Gödel, K., 1949,
An Example of a New Type of Cosmological Solutions of Einstein's Field Equations of Gravitation, *Rev. Mod. Phys.* **21**, 447.
- Goode, S.W., 1989,
Analysis of Spatially Inhomogeneous Perturbations of the FRW Cosmologies, *J. Math. Phys.* **39**, 2882.
- Gotay, M.J., Isenberg, J., Marsden, J.E., Montgomery, R., Śniatycki, J., and Yasskin, P.B., 1991,
Momentum Maps and Classical Relativistic Fields, (to appear).

- Greene, R.D., Schücking, E.L. and Vishveshwara, C.V., 1975,
The Rest Frame in Stationary Space-times With Axial Symmetry, *J. Math. Phys.* **16**, 153.
- Gupta, A., Iyer, S. and Prasanna A.R., 1996,
Centrifugal Force and Ellipticity Behaviour of a Slowly Rotating Ultra Compact Object, *Class. Quantum Grav.* **13**, 2675.
- Gupta, A., Iyer, S. and Prasanna A.R., 1997,
Behaviour of the Centrifugal Force and of Ellipticity for a Slowly Rotating Fluid Configuration with Different Equations of State, *Class. Quantum Grav.* **14**, L143.

H

- Hanni, R.S., 1977,
Wavefronts Near a Black Hole, *Phys. Rev.* **D16**, 933.
- Hanni, R., and Ruffini, R., 1973,
Lines of Force of a Point Charge Near a Schwarzschild Black Hole, *Phys. Rev.* **D8**, 3259.
- Hanni, R., and Ruffini, R., 1975,
Schwarzschild Black Hole in an Asymptotically Uniform Magnetic Field, *Lett. Nuovo Cim.* **15**, 189.
- Hasse, W. and Perlick, V., 1990,
On Redshift and Parallaxes in General Relativistic Kinematical World Models, *J. Math. Phys.* **31**, 1962.
- Hawking, S.W., 1966,
Perturbations of an Expanding Universe, *Astrophys. J.* **145**, 544.
- Hawking, S.W., and Ellis, G.F.R., 1973, *The Large Scale Structure of Space-Time*, (Cambridge University Press, Cambridge).
- Henriksen, R.H., and Nelson, L.A., 1985,
Clock Synchronization by Accelerated Observers: Metric Construction for Arbitrary Congruences of World Lines, *Can. J. Phys.* **63**, 1393.
- Hill, E.L., 1946,
A Note on the Relativistic Problem of Uniform Rotation, *Phys. Rev.* **69**, 488.
- Honig, E., Schücking, E.L. and Vishveshwara, C.W., 1974,
Motion of Charged Particles in Homogeneous Electromagnetic Fields, *J. Math. Phys.* **15**, 744.

I

- Irvine, W.M., 1964,
Electrodynamics in a Rotating System of Reference, *Physica* **30**, 1160.
- Isenberg, J., and Nester, J., 1980,
Canonical Gravity, in *General Relativity and Gravitation*, Vol. I, Ed. A. Held, (Plenum, New York).
- Iyer, B.R. and Vishveshwara, C.V., 1993,
Frenet-Serret Description of Gyroscopic Precession, *Phys. Rev.* **D48**, 5706.
- Iyer, S. and Prasanna, A.P., 1993,
Centrifugal Force in Kerr Geometry, *Class. Quantum Grav.* **10**, L13.
- Iorio, L., 2000, *Int. J. Mod. Phys. D*, in press (*electronic preprint: gr-qc/ 0007014 and 0007057*).

J

Jantzen, R.T., see also Bini.

Jantzen, R.T., 1983,
Perfect Fluid Sources for Spatially Homogeneous Spacetimes, *Ann. Phys. (N.Y.)* **145**, 378.

Jantzen, R.T., 1990,
Understanding Spacetime Splittings and Their Relationships, in *Fisica Matematica Classica e Relatività: Rapporti e Compatibilità*, Eds. G. Ferrarese and C. Cattani, (Springer-Verlag, New York).

Jantzen, R.T., Bini, D., and Carini, P., 1996,
Gravitoelectromagnetism: Just a Big Word?, in *Proceedings of the Seventh Marcel Grossmann Meeting on General Relativity (1994)*, Eds. R.T. Jantzen and G.M. Keiser, (World Scientific, Singapore), 133.

Jantzen, R.T. and Carini, P., 1991,
Understanding Spacetime Splittings and Their Relationships, in *Classical Mechanics and Relativity: Relationship and Consistency*, Ed. G. Ferrarese, (Bibliopolis, Naples), 185.

Jantzen, R.T., Carini, P., and Bini, D., 1992,
The Many Faces of Gravitoelectromagnetism, *Ann. Phys. (N.Y.)* **215**, 1.

Jantzen, R.T., Carini, P., and Bini, D., 1993,
Gravitoelectromagnetism: Relativity of Splitting Formalisms, in *Proceedings of the Sixth Marcel Grossmann Meeting on General Relativity (1991)*, Eds. H. Sato and T. Nakamura, (World Scientific, Singapore), 135.

Jantzen, R.T., Carini, P., and Bini, D., 1993,
Gravitoelectromagnetism: Applications to Rotating Minkowski, Gödel, and Kerr Spacetimes, in *Proceedings of the Sixth Marcel Grossmann Meeting on General Relativity (1991)*, Eds. H. Sato and T. Nakamura, (World Scientific, Singapore), 1622.

Jantzen, R.T., Carini, P., and Bini, D., 2010, *Understanding Spacetime Splittings and Their Relationships*, (in preparation).

K

Karlovini, M., Rosquist, K. and Samuelsson, L., 2000,
Ultracompact stars with multiple necks, *Ann. Physik* **9**, 149 (see also *electronic preprint*: gr-qc/0009073 and *electronic preprint*: gr-qc/0009079).

Kichenassamy, S. and Krikorian, R.A., 1991,
The Relativistic Rotation Transformation and the Corotating Source Model, *Astrophys. J.* **371**, 277.

King, A.R. and Ellis, G.F.R., 1973,
Tilted Homogeneous Cosmological Models, *Commun. Math. Phys.* **31**, 209.

Kristiansson, S., Sonego, S., Abramowicz, M.A., 1998,
Optical Space of the Reissner-Nordström Solutions, *Gen. Relativ. Grav.* **30**, 275.

Kuang, Z. and Liang, C., 1993,
All Space-times Admitting Strongly Synchronizable Reference Frames Are Static, *J. Math. Phys.* **34**, 1016.

Kundt, W., and Trümper, M., 1962, *Akad. Wiss. Mainz Abh., Math.-Nat. Kl.* Nr. 12, 196.

Kramer D., Stephani H., Herlt E. and MacCallum M.A.H., 1980, *Exact Solutions of Einstein's Theory*, Ed. E. Schmutzer, (Cambridge University Press, Cambridge).

L

- Landau, L.D., and Lifshitz, E.M., 1941, *Teoriya Polya*, (Nauka, Moscow).
- Landau, L.D., and Lifshitz, E.M., 1975, *The Classical Theory of Fields*, (Permagon Press, New York).
- Lense, J. and Thirring, H., 1918,
Über den Einfluss der Eigenrotation der Zentralkörper auf die Bewegung der Planeten und Monde nach der Einsteinschen Gravitationstheorie, *Phys. Zeitschr.* **19**, 156.
- Lesame, W.M., 1995,
Irrotational Dust with a Purely Magnetic Weyl Tensor, *Gen. Relativ. Grav.* **27**, 1111; erratum, 1995, *Gen. Relativ. Grav.* **27**, 1327.
- Lesame, W.M., Dunsby, P.K.S., and Ellis, G.F.R., 1995,
Integrability Conditions for Irrotational Dust with a Purely Electric Weyl Tensor: A Tetrad Analysis, *Phys. Rev.* **D52**, 3406.
- Lesame, W.M., Ellis, G.F.R., and Dunsby, P.K.S., 1996,
Irrotational Dust with $\text{div } H = 0$, *Phys. Rev.* **D53**, 738.
- Lesame, W.M., Ellis, G.F.R., and Dunsby, P.K.S., 1994,
Irrotational Dust with a Zero Circulation Magnetic Weyl Tensor, (Dept. of Applied Mathematics, University of Cape Town).
- Lewis, T., 1932, *Proc. Roy. Soc. Lond.* **331**, 176 (1932).
- Li, N. and Torr, D.G., 1991,
Effects of a Gravitomagnetic Field on Pure Superconductors, *Phys. Rev.* **D43**, 457.
- Lichnerowicz, A., 1944,
L'intégration des équations de la gravitation relativiste et le problème des n corps, *J. Math. Pures Appl.* **23**, 37.
- Lichnerowicz, A., 1955, *Théories Relativistes de la Gravitation et de L'Electromagnétisme*, (Masson, Paris).
- Lichnerowicz, A., 1967, *Relativistic Hydrodynamics and Magnetohydrodynamics*, (Benjamin, New York).
- Lichtenegger, H.I.M., Gronwald, F. and Mashhoon, B., 2000, *Adv. Space Res.* **25**, 1255.
- Lottermoser, M., 1988,
On the Newtonian Limit of General Relativity and the Relativistic Extension of Newtonian Initial Data, Ph.D. Dissertation (Ludwig-Maximilians-Universität, Munich).
- Lottermoser, M., 1992,
The Post-Newtonian Approximation for the Constraint Equations in General Relativity, *Ann. Inst. H. Poin.* **57**, 279.

M

- Maartens, R., 1997,
Linearisation instability of gravity waves?, *Phys. Rev.* **D55**, 463.
- Maartens, R. and Bassett, B.A., 1998,
Gravito-electromagnetism, *Class. Quantum Grav.* **15**, 705.

- Maartens, R., Ellis, G.F.R., and Siklos, S.T.C., 1997,
Local Freedom in the Gravitational Field, *Class. Quantum Grav.* **14**, 1927.
- Maartens, R., Lesame, W.M., and Ellis, G.F.R., 1997,
Consistency of Dust Solutions with $\text{div } H=0$, *Phys. Rev.* **D55**, 5219.
- Maartens, R., Lesame, W.M., and Ellis, G.F.R., 1998,
Newtonian-like and Anti-Newtonian Universes, *Class. Quantum Grav.* **15**, 1005.
- Maartens, R., and Triginer, J., 1997,
Density Perturbations with Relativistic Thermodynamics, *Phys. Rev.* **D56**, 4640.
- MacCallum, M.A.H., 1973,
Cosmological Models From a Geometric Point of View, in *Cargese Lectures in Physics 6, Lectures at the International Summer School of Physics, Cargese, Corsica 1971*, Ed. E. Schatzman, (New York: Gordon and Breach).
- Macdonald, D., and Thorne, K.S., 1982,
Black-Hole Electrodynamics: an Absolute-Space/Universal-Time Formulation, *Mon. Not. R. Ast. Soc.* **198**, 345.
- Marck, J.A., 1983,
Solution to the Equations of Parallel Transport in Kerr Geometry; Tidal Tensor, *Proc. R. Soc. Lond. A* **385**, 431.
- Marck, J.A., 1983,
Parallel-Tetrad on Null Geodesics in Kerr and Kerr-Newman Space-Time, *Phys. Lett.* **97A**, 140.
- Marck, J.A., 1996,
Short-cut Method of Solution of Geodesic Equations for Schwarzschild black hole, *Class. Quantum Grav.* **13**, 393.
- Martinez, E.A., 1994,
Quasi-local Energy for a Kerr Black Hole, *Phys. Rev.* **D50**, 4920.
- Mashhoon, B., see also Cohen.
- Mashhoon, B., 1973,
Scattering of Electromagnetic Radiation from a Black Hole, *Phys. Rev.* **7**, 2807.
- Mashhoon, B., 1974,
Electromagnetic Scattering From a Black Hole and the Glory Effect, *Phys. Rev.* **10**, 1059.
- Mashhoon, B., 1974,
Can Einstein's Theory of Gravitation Be Tested Beyond the Geometrical Optics Limit?, *Nature* **250**, 316.
- Mashhoon, B., 1975,
Influence of Gravitation on the Propagation of Electromagnetic Radiation from a Black Hole, *Phys. Rev.* **11**, 2679.
- Mashhoon, B., 1989,
Electrodynamics in a Rotating Frame of Reference, *Phys. Lett.* **A139**, 103.
- Mashhoon, B., 1992,
On the Strength of a Gravitational Field, *Phys. Lett.* **A163**, 7.

- Mashhoon, B., 1999,
On the spin-rotation-gravity coupling, in *Mexican Meeting on Gauge Theories of Gravity (Mexico City, 1997)*, *Gen. Relativ. Grav.* **31**, 681.
- Mashhoon, B., Gronwald, F. and Lichtenegger, H.I.M., 2000,
Gravitomagnetism and the Clock Effect, in *Gyros, Clocks and Interferometers: Testing General Relativity in Space*, Eds. C. Lämmerzahl C.W.F. Everitt and F.W. Hehl, (Springer, Berlin).
- Mashhoon, B., Gronwald, F. and Theiss, D.S., 1999,
On Measuring Gravitomagnetism via Spaceborne Clocks: A Gravitomagnetic Clock Effect, *Ann. Physik* **8**, 135.
- Mashhoon, B., Hehl, F.W., and Theiss, D.S., 1984,
On the Gravitational Effects of Rotating Masses: The Thirring-Lense Papers, *Gen. Relativ. Grav.* **16**, 711.
- Mashhoon, B., McClune, J.C., Quevedo, H., 1997,
Gravitational Superenergy Tensor, *Phys. Lett. A* **231**, 47.
- Mashhoon, B., McClune, J.C., Quevedo, H., 1999,
On the Gravitoelectromagnetic Stress-energy Tensor, *Class. Quantum Grav.* **16**, 1137.
- Mashhoon, B., Paik, H.J. and Will, C.M., 1989,
Detection of the Gravitomagnetic Field Using an Orbiting Superconducting Gravity Gradiometer: Theoretical Principles, *Phys. Rev. D* **39**, 2825.
- Mashhoon, B. and Santos, N.O., 2000
Rotating Cylindrical Systems and Gravomagnetism, *Ann. Physik* **9**, 49.
- Massa, E., 1974,
Space Tensors in General Relativity I: Spatial Tensor Algebra and Analysis, *Gen. Relativ. Grav.* **5**, 555.
- Massa, E., 1974,
Space Tensors in General Relativity II: Physical Applications, *Gen. Relativ. Grav.* **5**, 573.
- Massa, E., 1974,
Space Tensors in General Relativity III: The Structural Equations, *Gen. Relativ. Grav.* **5**, 715.
- Massa, E. and Zordan, C., 1975,
Relative Kinematics in General Relativity: The Thomas and Fokker Precessions, *Meccanica* **10**, 27.
- Massa, E., 1990,
Spatial Tensor Analysis in General Relativity, in *Fisica Matematica Classica e Relatività: Rapporti e Compatibilità*, Eds. G. Ferrarese and C. Cattani, (Springer-Verlag, New York).
- McIntosh, C.B.G, Arianrhod, R., Wade, S.T., and Hoenselaers, C., 1994,
Electric and Magnetic Weyl Tensors: Classification and Analysis, *Class. Quantum Grav.* **11**, 1555.
- Misner, C.W., and Wheeler, J.A., 1957,
Classical Physics as Geometry, *Ann. Phys. (N.Y.)* **2**, 525.
- Misner, C.W., Thorne, K.S. and Wheeler, J.A., 1973, *Gravitation*, (Freeman, San Francisco).
- Mitskievich, N.V.,
Relativistic Physics in Arbitrary Reference Frames, *electronic preprint*: gr-qc/ 9606051.

Mitskievich, N.V. and Pulido Garcia, I., 1970,
??, *Sov. Phys. Dokl.* **15**, 591.

Mitskievich, N. V. and Zaharow, V. N., 1970,
??, *Doklady Akad. Nauk. SSSR.*, **195**, 321 (in Russian).

Møller, C., 1952, *The Theory of Relativity*, First Edition; 1972, Second Edition, (Oxford University Press, Oxford).

N

Nayak, K.R. and Vishveshwara, C.V., 1996,
Gyroscopic Precession and Inertial Forces in the Kerr-Newman Spacetime, *Class. Quantum Grav.* **13**, 1783.

Nayak, K.R. and Vishveshwara, C.V., 1997,
Gyroscopic Precession and Centrifugal Force in the Ernst Spacetime, *Gen. Relativ. Grav.* **29**, 291.

Nordtvedt, K., 1988,
Gravitomagnetic Interaction and Laser Ranging to Earth Satellites, *Phys. Rev. Lett.* **61**, 2647.

Nordtvedt, K., 1988,
Existence of the Gravitomagnetic Interaction, *Int. J. Theor. Phys.* **27**, 1395 (1988).

O

Olson, D.W., 1976,
Density Perturbations in Cosmological Models, *Phys. Rev.* **D14**, 327.

Ozsváth, I., 1977,
Spatially Homogeneous Lichnerowicz Universes, *Gen. Relativ. Grav.* **8**, 737.

Ozsváth, I., and Schücking, E., 1969,
The Finite Rotating Universe, *Ann. Phys. (N.Y.)* **55**, 166.

P

Page, D.N., 1993,
??, *Sci. Am.* **269**, 10.

Page, D., 1998,
Maximal acceleration is nonrotating, *Class. Quantum Grav.* **15**, 1669.

Papapetrou, A., 1966, *Ann. Inst. H. Poincaré* **A4**, 83.

Perjés, Z., 1989,
Parametric Manifolds, in *Proceedings of the Fifth Marcel Grossmann Meeting on General Relativity*,
Eds. D.G. Blair and M.J. Buckingham, (World Scientific, Singapore).

Perjés, Z., 1993,
The Parametric Manifold Picture of Space-Time, *Nuc. Phys.* **B403**, 809. !-837

Perlick, V., 1990,
On Fermat's Principle in General Relativity: I. The General Case, *Class. Quantum Grav.* **7**, 1319.

Perlick, V., 1990,
On Fermat's Principle in General Relativity: II. The Conformally Stationary Case, *Class. Quantum Grav.* **7**, 1849.

Perlick, V., 1990,
Geometrical and Kinematical Characterization of Parallax-Free World Models, *J. Math. Phys.* **29**, 2064.

Perlick, V. 1991,
A Class of Stationary Charged Dust Solutions of Einstein's Field Equations, *Gen. Relativ. Grav.* **23**, 1337.

Pietronero, L., 1973,
The Mechanics of Particles Inside a Rotating Cylindrical Mass Shell, *Ann. Phys. (N.Y.)* **79**, 250.

Pietronero, L., 1974,
Mach's Principle for Rotation, *Nuovo Cim.* **20B**, 144.

Pirani, F.A.E., 1956, *Acta Physica Polonica* **15**, 389.

Plebansky, J., 1960,
Electromagnetic Waves in Gravitational Fields, *Phys. Rev.* **118**, 1396.

Post, E.J., 1967,
Sagnac Effect, *Rev. Mod. Phys.* **39**, 475.

Prasanna, A.R., see also Iyer.

Prasanna, A.R., 1991,
Centrifugal Force in Ernst Space-Time, *Phys. Rev.* **D43**, 1418.

Prasanna, A.R., 1997,
Inertial Frame Dragging and Mach's Principle in General Relativity, *Class. Quantum Grav.* **14**, 227.

Prasanna, A.R. and Chakrabarti, S.K., 1990,
Angular Momentum Coupling and Optical Reference Geometry in Kerr Spacetime, *Gen. Relativ. Grav.* **22**, 987.

Prasanna, A.R. and Iyer, S., 1991,
The Radial Force on a Charged Particle in Superimposed Magnetic Fields on Schwarzschild Space-Time, *Pramana J. Phys* **37**, 405.

Prasanna, A.R. and Iyer, S., 1997,
Cumulative Dragging: An Intrinsic Characterization of Stationary Axisymmetric Spacetime, *Phys. Lett.* **A233**, 17.

Q

Qadir, A., 1989, *Introduction to Special Relativity*, (World Scientific, Singapore).

R

Raychaudhuri, R., 1955, *Phys. Rev.* **98**, 1113.

Raychaudhuri, R., 1957, *Zeits. f. Astrophys.* **48**, 161.

Rindler, W., 1977,
The Case Against Space Dragging, *Phys. Lett.* **A233**, 25.

Rindler, W., 1977, *Essential Relativity*, Second Revised Edition, (Springer-Verlag, New York).

Rindler, W. and Perlick, V., 1990,
Rotating Coordinates as Tools for Calculating Circular Geodesics and Gyroscopic Precession, *Gen. Relativ. Grav.* **22**, 1067.

Romano, J.D., Price, R.H., 1995,
Embedding Initial Data for Black-Hole Collisions, *Class. Quantum Grav.* **12**, 875.

Rothman, T., Ellis, G.R.F. and Murugan, J., 2000,
Holonomy in the Schwarzschild-Droste Geometry, *electronic preprint*: gr-qc/ 0008070.

Ruffini, R., and Wilson, J.R., 1975,
Relativistic Magnetohydrodynamical Effects of Plasma Accreting into a Black Hole, *Phys. Rev.* **D12**, 2959.

Ruffini, R., 1978, in *Physics and Astrophysics of Neutron Stars and Black Holes*, Eds. R. Giacconi and R. Ruffini, (Italian Physical Society, Bologna).

Ryan Jr, M.P., and Shepley, L.C., 1975, *Homogeneous Relativistic Cosmologies*, (Princeton University Press, Princeton).

S

Sachs, R.K., and Wu, H., 1977, *General Relativity for Mathematicians*, (Springer-Verlag, New York).

Samuel, J. and Iyer, B.R., 1986,
A Gravitational Analog of the Dirac Monopole, *Current Science* **55**, 818.

Schiff, L.I., 1967,
Motion of a Gyroscope According to Einstein's Theory of Gravitation, *Proc. Nat. Acad. Sci. Am.* **46**, 871.

Schmutzer, E., 1968,
New Approach to Interpretation Problems of General Relativity by Means of the Splitting-up-formalism of Space-time, in *Induction, Physics and Ethics*, Eds. P. Weingartner and G. Zecha, (Riedel, Dordrecht).

Schmutzer, E. and Plebansky, J., 1977,
Quantum Mechanics in Non-inertial Frames of Reference, *Fortschritte der Physik* **25**, 37.

Schouten, J.A., 1921,
??, *Math. Z.* **11**, 55.

Semerák, O., see also de Felice.

Semerák, O., 1993,
Stationary Frames in the Kerr Field, *Gen. Relativ. Grav.* **25**, 1041.

Semerák O 1994
On the Competition of Forces in the Kerr Field, *Astron. Astrophys.* **291**, 679.

Semerák, O., 1995,
On the Occurrence of Rotospheres in the Kerr field, *Physica Scripta* **52**, 488.

Semerák, O., 1995,
What Forces Drive Relativistic Motion?, *Il Nuovo Cimento B* **110**, 973.

- Semerák, O., 1996,
Extremally Accelerated Observers in Stationary Axisymmetric Spacetimes, *Gen. Relativ. Grav.* **28**, 1151.
- Semerák, O., 1996,
What Forces Act in Relativistic Gyroscope Motion?, *Class. Quantum Grav.* **13**, 2987.
- Semerák, O., 1996,
Collimation (and Other) Effects of the Kerr Field: an Interpretation, *Astrophys. Lett. Commun.* **33**, 275.
- Semerák, O., 1997,
Gyroscope in Polar Orbit in the Kerr Field, *Gen. Relativ. Grav.* **29**, 153.
- Semerák, O., 1998,
Rotospheres in Stationary Axisymmetric Spacetimes, *Ann. Phys. (N.Y.)* **263**, 133.
- Semerák, O., 1999,
The Gravitomagnetic Clock Effect and Extremely Accelerated Observers, *Class. Quantum Grav.* **16**, 3769.
- Semerák, O. and Bičák, J., 1997,
The Interplay Between Forces in the Kerr-Newman Field, *Class. Quantum Grav.* **14**, 3135.
- Semerák, O. and de Felice, F., 1997,
Quasi-Local Measurements and Orientation in Black Hole Fields, *Class. Quantum Grav.* **14**, 2381.
- Shahid-Saless, B., 1988,
Relativistic Effects in Local Inertial Frames Including Parametrized-Post-Newtonian Effects, *Phys. Rev.* **D38**, 1645.
- Shahid-Saless, B., 1990,
Local Gravitomagnetism, *Gen. Relativ. Grav.* **22**, 1147.
- Shahid-Saless, B., 1992,
Local Gravitomagnetic Perturbations of the Lunar Orbit, *Phys. Rev.* **D46**, 5404.
- Sharp, N.A., 1981,
On Embeddings of the Kerr Geometry, *Can. J. Phys.* **59**, 688.
- Skrotsky, G.V., 1957,
The Influence of Gravitation on the Propagation of Light, *Sov. Phys. Dok.* **2**, 226.
- Smarr, L., and York Jr, J.W., 1978b,
Kinematical Conditions in the Construction of Spacetime, *Phys. Rev.* **D17**, 2529.
- Soffel, M.H., 1989, *Relativity, Astrometry, Celestial Mechanics and Geodesy*, (Springer-Verlag, Berlin).
- Sonego, S., see also Abramowicz, Kristiansson.
- Sonego, S. and Abramowicz, M.A., 1998,
Maxwell Equations and the Optical Geometry, *J. Math. Phys.* **39**, 3158.
- Sonego, S. and Lanza, A., 1996,
Relativistic Perihelion Advance as a Centrifugal Force, *Mon. Not. R. Ast. Soc.* **279**, L65.

- Sonego, S. and Massar, M., 1996,
Covariant Definition of Inertial Forces: Newtonian Limit and Time-Dependent Gravitational Fields, *Class. Quantum Grav.* **13**, 139.
- Sopuerta, C., Roy Maartens, R., Ellis, G. and Lesame, W., 1999,
Nonperturbative Gravito-Magnetic Fields, *Phys. Rev.* **D60**, 024006.
- Stachel, J., 1980,
The Anholonomic Cauchy Problem in General Relativity, *J. Math. Phys.* **21**, 1776.
- Stedman G. E., 1985,
Ring Interferometric Tests of Classical and Quantum Gravity, *Contemp. Phys.* **26**, 311.
- Stedman G. E., 1997,
Ring Laser Tests of Fundamental Physics and Geophysics, *Rep. Prog. Phys.* **60**, 615.
- Szafron, D.A., and Collins, C.B., 1979,
A New Approach to Inhomogeneous Cosmologies: Intrinsic Symmetries. II. Conformally Flat Slices and an Invariant Classification, *J. Math. Phys.* **20**, 2347.

T

- Takeno, H., 1952,
On Relativistic Theory of Rotating Disk, *Prog. Theor. Phys.* **7**, 367.
- Tamm, I., 1924, *J. Russ. Phys.-Chem. Soc.* **56**, 284.
- Tartaglia, A., 2000,
Detection of the Gravitomagnetic Clock Effect, *Class. Quantum Grav.* **17**, 783.
- Tartaglia, A., 2000,
Influence of the Angular Momentum of Astrophysical Objects on Light and Clocks and Related Measurements, *Class. Quantum Grav.* **17**, 2381.
- Taub, A.H., 1969,
Stability of Fluid Motions and Variational Principles, *Proceedings of the 1967 Colloque on "Fluids et champ gravitationnel en relativité générale"*, No. 170 (Cente National de la Recherche Scientifique, Paris), 57.
- Taub, A.H., and MacCallum, M.A.H., 1972,
Variational Principles and Spatially-Homogeneous Universes, Including Rotation, *Commun. Math. Phys.* **25**, 173.
- Thirring, H., and Lense, J., 1918,
Über den Einfluss der Eigenrotation der Zentralkörper auf die Bewegung der Planeten und Monde nach der Einsteinschen Gravitationstheorie, *Phys. Z.* **19**, 156.
- Thomas, L.W., 1927,
The Kinematics of an Electron With an Axis, *Phyl. Mag.* **3**, 1.
- Thorne, K.S., 1981,
Experimental Gravity, Gravitational Waves, and Quantum Nondemolition: an Introduction, in *Quantum Optics, Experimental Gravitation, and Measurement Theory*, Eds. P. Meystre and M.O. Scully, (Plenum Press, New York and London).
- Thorne, K.S., 1989,
Gravitomagnetism, Jets in Quasars, and the Stanford Gyroscope Experiment, in *Near Zero: New Frontiers in Physics*, Eds. J.D. Fairbank, B.S. Deaver, Jr., C.W.F. Everitt, P.F. Michelson, (Freeman, New York).

- Thorne, K.S., and Macdonald, D., 1982,
Electrodynamics in Curved Spacetime: $3 + 1$ formulation, *Mon. Not. R. Ast. Soc.* **198**, 339.
- Thorne, K.S., Price, R.H., and Macdonald, D.A., 1986, *Black Holes: The Membrane Paradigm*, (Yale University Press, New Haven).
- Thorne, K.S., 1988, in *Near Zero: New Frontiers of Physics*, Eds. J.D. Fairbank, B.S. Deaver, Jr., C.W. Everitt, and P.F. Michelson, (Freeman, New York).
- Tiomno, J., 1973,
Electromagnetic Field of Rotating Charged Bodies, *Phys. Rev.* **7**, 992.
- Trautman, A., 1965,
Foundations and Current Problems of General Relativity, in *Brandeis Lectures on General Relativity*, Eds. A. Trautman, F.A.E. Pirani, H. Bondi, (Prentice Hall, Englewood Cliffs, NJ).
- Trocheris, M.G., 1949,
Electrodynamics in a Rotating Frame of Reference, *Phil. Mag.* **40**, 1143.
- Trümper, M., 1965,
On a Special Class of Type-I Gravitational Fields, *J. Math. Phys.* **6**, 584.
- Trümper, M., 1967,
Bemerkungen über scherungsfreie Strömungen gravitierender Gase, *Zeits. f. Astrophys.* **66**, 215.
- Tsoubelis, D., Economou, A., and Stoghianidis, E., 1987,
Local and Global Gravitomagnetic Effects in Kerr Spacetime, *Phys. Rev.* **D36**, 1045.
- Tsoubelis, D., Economou, A., and Stoghianidis, E., 1986,
The Geodetic Effect Along Polar Orbits in the Kerr Spacetime, *Phys. Lett.* **118**, 113.

V

- Van Bladel, J., 1984, *Relativity and Engineering*, (Springer-Verlag, Berlin).
- van Elst, H. and Uggla, C., 1997,
General Relativistic $1+3$ Orthonormal Frame Approach Revisited, *Class. Quantum Grav.* **14**, 2673.
- Vishveshwara, C.V., see also Iyer, Nayak.

W

- Wainwright, J., 1979,
A Classification Scheme for Non-Rotating Inhomogenous Cosmologies, *J. Phys. A: Math. Gen.* **12**, 2015.
- Wald, R.M., 1984 *General Relativity*, (University of Chicago, Chicago).
- Walker, A.G., 1932,
Relative Coordinates, *Proc. Roy. Soc. Edinburgh* **52**, 345.
- Weinberg, S., 1972, *Gravitation and Cosmology*, (Wiley, New York).
- J.A. Wheeler, 1964, in *Relativity, Groups, and Topology*, Eds. C. DeWitt and B.S. DeWitt, (Gordon and Breach, New York).
- Wheeler, J.A., 1988,
Geometrodynamical Steering Principle Reveals the Determiners of Inertia, *Int. J. Mod. Phys.* **A3**, 2207.

Weyl, H., 1917, *Ann. Phys., Lpz.* **54**, 117.

Wilkins, D. and Jacobs, M.W., 1992,
Gödel's Gravitomagnet, *Phys. Rev.* **D46**, 3395.

Xu, D.Y. and Qin, Z.Y., 1998, *Int. J. Theor. Phys.* **37**, 1159.

Y

York Jr., J.W., 1971,
Gravitational Degrees of Freedom and the Initial-Value Problem, *Phys. Rev. Lett.* **26**, 1656.

York Jr., J.W., 1972,
Role of Conformal Three-Geometry in the Dynamics of Gravitation, *Phys. Rev. Lett.* **28**, 1082.

York Jr., J.W., 1979,
Kinematics and Dynamics of General Relativity, in *Sources of Gravitational Radiation*, Ed. L. Smarr, (Cambridge University Press, Cambridge).

Z

Zel'manov, A.L., 1956,
Chronometric Invariants and Frames of Reference in the General Theory of Relativity, *Dokl. Akad. Nauk. USSR* **107**, 805 [Eng. trans. in *Sov. Phys. Doklady* **1**, 227 (1956)].

Zel'manov, A.L., 1959, in *Turdy Shestovo Soveshchaniya po Voprosam Kosmogonii*, (Acad. Pub. USSR, Moscow).

Zel'manov, A.L., 1973,
Kinematic Invariants and Their Relation to Chronometric Invariants in Einstein's Theory, *Sov. Phys. Dokl.* **18**, 231.

Zhang, X.H., 1989,
3 + 1 Formulation of General-Relativistic Perfect Magnetohydrodynamics, *Phys. Rev.* **39**, 2933.

Znajek, R.L., 1977,
Black Hole Electrodynamics and the Carter Tetrad, *Mon. Not. R. Ast. Soc.* **175**, 457.